

UNITED STATES PATENT AND TRADEMARK OFFICE  
PRE APPEAL BRIEF REQUEST FOR REVIEW

APPLICANT(S)	Scribano, Gino et al.	GROUP ART UNIT:	2618
APPLN. NO.:	10/726,233	EXAMINER:	Vuong, Quochien B.
FILED:	December 2, 2003	CASE NO.:	CE10726R
		CONFIRMATION NO.:	3718
TITLE:	METHOD AND APPARATUS FOR IMPROVING HARD HANDOFFS IN CDMA SYSTEMS		

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ARGUMENTS/DISCUSSION

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated in the paragraphs below.

Claims 1, 2, 4-7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang (US 7,130,285). Claims 3 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims on appeal are claims 1-9. Claims 1-9 were originally filed in the present application.

There are no outstanding or proposed claim amendments or other outstanding papers associated with this application. In view of the comments below, Applicants respectfully submit that the Office Action rejections includes clear errors because at least one limitation is not met by the reference cited and no art is provided as teaching or suggesting the limitation(s). Applicants request that the Panel reconsider the present application including claims 1-9 and

withdraw the rejection of these claims or alternatively reopen prosecution on the merits.

Claim 1 is an independent claim that specifically recites:

In a communication system comprising a source base station, a target base station and a mobile switching center, a method of improving hard handoff comprising:

- by the source base station, sending a request for handoff to the mobile switching center, wherein the request comprises a requested service option and a list of service options supported by a mobile station;
- receiving by the source base station, a handoff command comprising a service option selected by the target base station, wherein the selected service option comprises one of the requested service option and a service option in the list of service options supported by the mobile station; and
- sending, by the source base station, a handoff direction message containing the selected service option to the MS.

Claim 4 is an independent claim that specifically recites:

In a communication system comprising a source base station, a target base station and a mobile switching center, a method of improving hard handoff comprising:

- by the target base station, receiving a request for handoff wherein the request comprises a requested service option and a list of service options supported by a mobile station;
- determining whether the requested service option is supported;
- when the requested service option is not supported, selecting an alternate service option;
- when the requested service option is supported, selecting the requested service option;

and

- sending, by the target base station, a handoff request acknowledge comprising the selected service option.

Claim 7 is an independent claim that specifically recites:

In a communication system comprising a source base station, a target base station and a mobile switching center, a method of improving hard handoff comprising:

- receiving, by the mobile switching center, a request for handoff from the source base station, wherein the request comprises a requested service option and a list of service options supported by a mobile station; and
- sending, by the mobile switching center, a handoff request message to the target base station, wherein the request message comprises the requested service option and the list of service options supported by the mobile station.

Claims 1, 4 and 7 are directed to a method of improving hard handoff in a communication system that includes a source base station, target base station and a mobile switching center. In claim 1, the source base station sends a request for handoff to the mobile switching center. The request for handoff includes a requested service option and a list of service options supported by a mobile station. The source base station receives from the target base station a handoff command that includes a service option selected by the target base station. The selected service option is either the requested service option or a service option in the list of service options supported by the mobile station. The source base station sends a handoff direction message containing the selected service option to the mobile station. Claims 4 and 7 recite similar limitations written from the perspective of the target base station and mobile switching center, respectively.

Claims 1, 4 and 7 recite limitations that include "a request for handoff . . . wherein the request comprises a requested service option and a list of service options supported by a mobile station." Chang's method of handoff does not teach that the handoff request comprises a requested service option and a list of service options supported by a mobile station. Chang's method of handoff includes only a requested service option(s). In particular, Chang describes a method for providing concurrent service handoff in a mobile communication system. Chang contends that the conventional handoff process at the time of the Chang invention considered only the case where a mobile communication system provided a single service, voice or data, but not the case where the communication system provided both voice and packet services concurrently. See column 4, lines 55-63. A method to address the perceived problem is described. When a source base station determines that a handoff is necessary to a target base station, the source base station determines the number of currently connected services. If there is one currently connected service, voice or data, the source base station sends a handoff required message requesting the currently connected single service option, voice or data, and a SCR related to the single service option (i.e., requested service option). More importantly, if there are two currently connected services, voice and data, the source base

station sends a handoff required message requesting the options of the two currently connected services and an IS-2000 SCR related to the services (i.e., requested service options). See column 6, line 55 to column 7, line 18 and column 7, line 54 to column 8, line 3. There is no mention in Chang that the handoff required message includes a list of service options supported by the mobile station in addition to the requested service options voice, data, or voice and data.

Page 6 of the Office Action cites figure 6 and col. 7 lines 25-40 of Chang as clearly disclosing that the list of service options supported by the mobile station are IS-2000 Mobile Capabilities, IS-2000 Service Record Configuration Record and Service Option Connection Reference. Applicants respectfully disagree. A person of ordinary skill in the art recognizes that these elements are terms of art that are defined in the 3GPP2 standards. The definitions section on page 19 of the Upper Layer (Layer 3) Signaling Standard for cdma 2000 Spread Spectrum Systems, 3GPP2 C.S0005-A dated June 9, 1999, defines service option as "a service capability of the system. Service options may be applications such as voice, data, or facsimile." IS-2000 Mobile Capabilities, IS-2000 Service Record Configuration Record and Service Option Connection Reference are likewise defined in the standards and do not fall within the definition of service options.

Pages 19 and 29 define Service Option Connection reference as a designator used by the base station or mobile station to uniquely identify a particular service option connection. A Service Option Connection is defined as a particular instance or session in which the service defined by a service option is used. Associated with a service option connection are a reference, which is used for uniquely identifying the service option connection, a service option, which specifies the particular type of service in use, a Forward Traffic Channel traffic type, which specifies what type of Forward Traffic Channel traffic is used to support the service option connection, and a Reverse Traffic Channel traffic type, which specifies what type of Reverse Traffic Channel traffic is used by the service option connection.

Section 6.1.5.4 of the 3GPP2 Access Network Interfaces Interoperability Specification, 3GPP2 A.S0001.1 dated June 2000 (hereinafter "specification"), states that the IS-2000 Mobile Capabilities and IS-2000 Service Configuration Record are elements of the Handoff Required Message. Section 6.2.2.70 of the specification states that the IS-2000 Mobile Capabilities element contains information about the IS-2000 specific capabilities of the mobile. The element specifies whether Dedicated Control Channel (DCCH), Fundamental Channel (FCH), Orthogonal Transmit Diversity (OTD) and Quick Paging Channel (QPCH) and supported. The element also specifies whether Enhanced RC CFG is supported -- whether the MS supports any radio 4 configuration in radio class 2. Section 6.2.2.68 of the specification states that the IS-2000 Service Configuration Record element contains the service configuration record as defined in TIA/EIA/IS-2000-5. The service configuration record includes an element identifier field coded according to the interface the message is sent on. The Service Configuration Record also includes the number of octets and fill bits in the element as well as the Service Configuration Record Content. Hence, it is clear from the specification that IS-2000 Mobile Capabilities and IS-2000 Service Configuration Record are not service options.

In view of the foregoing remarks, Applicants respectfully submit that claims 1-9 are clearly and patentably distinguished over Chang and as such are to be deemed allowable. Applicants request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

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